

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
FORT WORTH DIVISION

**BRIDGESTONE AMERICAS TIRE
OPERATIONS, LLC,**

Plaintiff,

v.

No. 4:22-cv-00145-P

SPEEDWAYS TYRES LIMITED, ET AL.,

Defendants.

**MEMORANDUM OPINION & ORDER REGARDING
CLAIM CONSTRUCTION**

Before the Court are the Parties' claim construction briefs. ECF Nos. 140, 144, 146. Having considered the briefing, relevant docket entries, and applicable law, the Court adopts the constructions listed at the end of this Order.

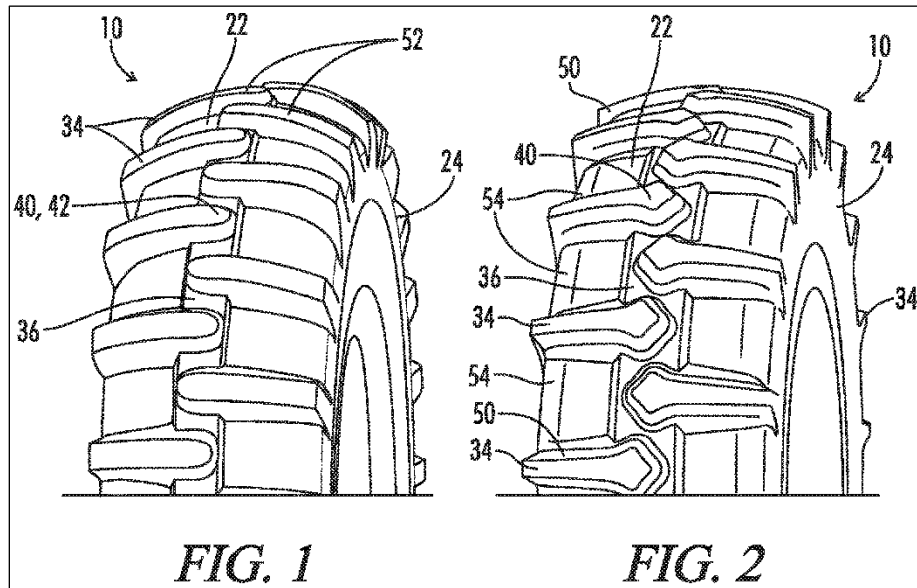
ASERTEED PATENT DESCRIPTION

Bridgestone asserts U.S. Patent No. 9,873,291 (the "291 Patent"), which is entitled "Irrigation tire" and "relates to non-directional pneumatic tires designed to support agricultural irrigation systems." '291 Patent at 1:7–10. The patent describes that conventional tires for off-road vehicles have a preferred direction, *e.g.*, forward, "which corresponds into a specific preferred direction of rotation designed directly into the prior art 'off-road' tires." *Id.* at 1:24–29. As such, conventional tires perform "significantly better" in the preferred direction than in the non-preferred direction. *Id.* at 1:33–36. As the '291 Patent explains, this "leads to tire designs having characteristics, such as tread pattern, that cause the tire to specifically perform better when the tire is rotated in a specific direction." *Id.* at 1:29–33.

The tires on agricultural vehicles, by contrast, are "design[ed] to traverse the ground with substantial similarity in both forward and

backward directions (i.e., non-directional tires).” *Id.* at 1:56–60. The patent describes that for a “substantial portion of agricultural devices ... it is undesirable for the agricultural device to substantially alter the ground upon which they move.” *Id.* at 1:62–67. Put differently, farmers are typically less-than-thrilled when their plowed fields get messed up.

Enter the ’291 Patent, which achieves the above design goals with a tread pattern that includes two or more longitudinal protrusions.¹ *Id.* at 2:61–64. Figures 1 and 2 show exemplary longitudinal protrusions (signposted as #34). *Id.* at 4:36–39.



Figures 1 and 2 show that the longitudinal axis—the axis running horizontally across each longitudinal protrusion—is parallel to the tire’s rotation axis. *See id.* The figures also show that circumferential protrusion 36 runs along the equatorial circumference of the tire (or, in English, the middle of the tire’s tread). *Id.* at 4:46–49.

Figure 5, below, views the tire from the top and shows longitudinal protrusions 34A and 34B and circumferential protrusion 36, as well as protrusion axis 44. *Id.* at 5:36–38.

¹ The patent also refers to various elements of a tread pattern, *e.g.*, longitudinal protrusions, as “lugs.” ’291 Patent at 1:42–45.

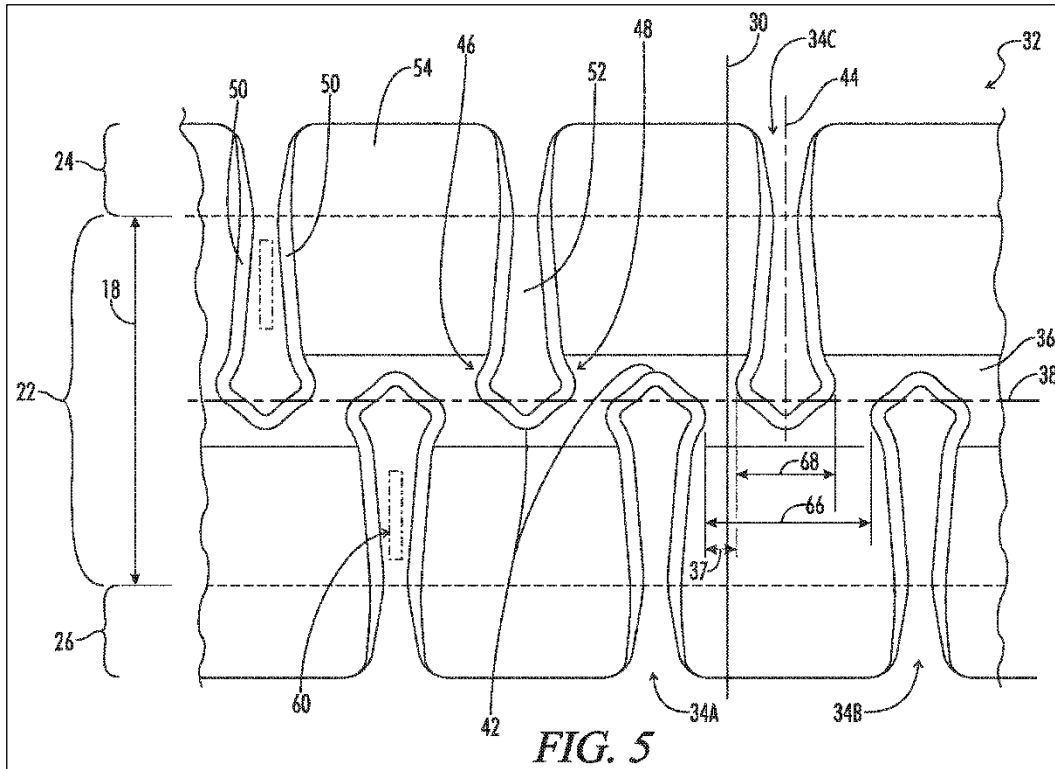


Figure 5 also depicts that the longitudinal protrusions have first bulge 46 and second bulge 48 in this embodiment. *Id.* at 5:45–47.

LEGAL STANDARD

A. General principles

As a general rule, claim terms are given their plain-and-ordinary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*); see also *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014), *vacated on other grounds*, 575 U.S. 959, 959 (2015) (“There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.”). A term’s plain-and-ordinary meaning is the “meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1313.

But general rules wouldn’t be general rules if they didn’t have exceptions. The “plain-and-ordinary meaning rule” has two: (1) when the patentee acts as his/her own lexicographer, or (2) when the patentee disavows the full scope of the claim term either in the specification or

during prosecution. *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). While the patentee gets to define terms as he or she sees fit, the Federal Circuit has counseled that “[t]he standards for finding lexicography and disavowal are exacting.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014). To act as his/her own lexicographer, the patentee must “clearly set forth a definition of the disputed claim term” and “‘clearly express an intent’ to [define] the term.” *Thorner*, 669 F.3d at 1365.

“Like the specification, the prosecution history provides evidence of how the [Patent and Trademark Office] and the inventor understood the patent.” *Phillips*, 415 F.3d at 1317. “[B]y distinguishing the claimed invention over the prior art, an applicant is indicating what a claim does not cover.” *Spectrum Int’l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1379 (Fed. Cir. 1998) (internal quotations omitted). The doctrine of prosecution disclaimer precludes a patentee from recapturing a specific meaning that was previously disclaimed during prosecution. *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). “[F]or prosecution disclaimer to attach, our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable.” *Id.* at 1325–26. Accordingly, when “an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013). The policy behind this rule is clear: because a patentee can’t strategically revisit a meaning previously eschewed, disclaimer of the contested meaning must be unequivocal.

A construction of “plain and ordinary meaning” may be inadequate when a term has more than one “ordinary” meaning or when reliance on a term’s “ordinary” meaning doesn’t resolve the Parties’ dispute. *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008). In that case, the Court must describe the plain-and-ordinary meaning for the relevant terms. *Id.*

“Although the specification may aid the court in interpreting the meaning of disputed claim language . . . , particular embodiments and examples appearing in the specification will not generally be read into

the claims.” *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988). “[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

Although extrinsic evidence can help, it is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004)). For instance, technical dictionaries can help, but they may provide definitions that are too broad or not indicative of how the term is used in the patent. *Id.* at 1318. Expert testimony can help too, but conclusory or unsupported assertions of a term’s meaning don’t.

B. Indefiniteness

“[I]ndefiniteness is a question of law and in effect part of claim construction.” *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012). Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 901. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art at the time the application was filed. *Id.* at 911.

ANALYSIS

A. Definiteness of claim terms.

Defendants say all terms are indefinite and provide alternative constructions based upon their “best understanding” if the Court disagrees. Bridgestone says Defendants “apply the wrong standard” by arguing that each term is indefinite because there is no antecedent basis in the specification for these claim elements. ECF No. 140 at 15 (Term #2); *see also* ECF No. 140 at 13 (Term #1), 17 (Term #3), 19 (Term #4),

21 (Term #5), 23 (Term #6), 26 (Term #7), 29 (Term #8), 30 (Term #9). Bridgestone says the standard for indefiniteness is whether a person of ordinary skill in the art (“POSITA”) would understand with reasonable certainty the scope of the claim term. *See, e.g., id.* at 13 (Term #1).

With respect to specific terms, Bridgestone argues the specification provides examples of the claim terms. *Id.* at 13 (citing ’291 Patent at Figures 1–5, 8, 9, and 15 with respect to Terms #1, #3), 15 (citing ’291 Patent at 4:67–5:6, Figure 5 with respect to Term #2), 20 (citing ’291 Patent at Figure 8 with respect to Terms #4, #5). With respect to Terms #5, #6, and #7, Bridgestone further argues that, during prosecution, it submitted an annotated version of Figure 8 that expressly identified each element. *Id.* at 22, 23–24. Finally, with respect to Term #6 (“radius of curvature”), Bridgestone contends that Defendants provide extrinsic evidence (dictionary definitions) for this term. *Id.* at 23. Based on the above evidence, Bridgestone says Defendants fail to show that a POSITA would not understand with reasonable certainty the scope of the claim terms. *See, e.g., id.* at 13.

Defendants argue that “although all the claim terms recited above plainly speak of ‘circumference,’ ‘convex,’ or ‘concave,’ plainly requiring uniformity of shape around a ‘central axis’ as with an arc or circle, the specification does not show that in any instance.” Response at 27. More specifically, Defendants argue that:

Plaintiff elected to use *exact language* to define the scope of its patent *in its claims*; however, nowhere in the *specification* (including particularly the drawings) can one find a predicate application of these claim terms, so the patent “does not contain an adequate disclosure of the structure that corresponds to the claimed function, . . . which renders the claim invalid for indefiniteness.”

Id. (emphasis in Defendants’ brief) (quoting *Digital Retail Apps, Inc. v. H-E-B, LP*, No. 6-19-CV-00167, 2020 WL 376664, at *7 (Albright, J.) (W.D. Tex. Jan. 23, 2020)).

Bridgestone’s Reply again asserts that Defendants base their indefiniteness argument on the wrong legal standard and reiterates the POSITA standard. Reply at 1–2 (citing *Nautilus*, 572 U.S. at 910).

Bridgestone contends that *Nautilus* does not require that “the exact words of the claims appear in the specification *in haec verba*.” *Id.* at 2. Further, Bridgestone meticulously distinguishes the cases Defendants cite to argue the claim terms are indefinite because Bridgestone did not use the exact words of each claim term in the specification. *Id.* With respect to *Digital Retail Apps*, Bridgestone points out that the inquiry there was lack of structure under § 112, ¶ 6, not indefiniteness under § 112, ¶ 2. *Id.* With respect to *Halliburton*, Bridgestone contends that the case stands for “the unremarkable conclusion that a claim term is indefinite if ‘neither [patentee’s] proposed definition nor any other possible construction resolves the ambiguity in the scope of the term.’” *Id.* (quoting *Halliburton*, 514 F.3d 1250). And with respect to *HZNP Meds.* and *St. Isidore*, Bridgestone notes both cases ultimately apply the *Nautilus* standard and thus lend no credence to Defendants’ position. *Id.* To top things off, Bridgestone says “Defendants also refuse to acknowledge their burden to prove indefiniteness by clear and convincing evidence.” *Id.* at 3.

The Court agrees with Bridgestone that the terms are not indefinite. *First*, Defendants base their indefiniteness argument on the wrong legal standard. The proper standard—which Bridgestone endorses—is whether a POSITA would understand the scope of the claim terms with reasonable certainty. *See Nautilus*, 572 U.S. at 910. To this end, Defendants’ reliance on *Digital Retail Apps* is misplaced because the focus there was indefiniteness due to lack of structure under § 112, ¶ 6 (which doesn’t apply), not § 112, ¶ 2 (which does). Defendants thus miss the mark vis-à-vis indefiniteness, as their arguments are predicated on the wrong legal standard.

Second, even if Defendants had used the right legal standard, they don’t show by clear and convincing evidence that a POSITA wouldn’t understand with reasonable certainty the scope of the claim terms. Indeed, Defendants’ entire indefiniteness argument for nine different claim terms is a single sentence long. Given the lack of individualized argument for each claim term, the Court concludes that, even if Defendants used the correct legal standard, Defendants don’t provide clear and convincing evidence of indefiniteness.

* * *

B. Term #1: “Each longitudinal protrusion being circumferentially symmetric about its protrusion axis.”

| Claim Term | Bridgestone’s Proposal | Defendants’ Proposal |
|--|--|---|
| <p>#1: “Each longitudinal protrusion being circumferentially symmetric about its protrusion axis”</p> <p>U.S. Patent No. 9,873,291, Claim 1</p> | <p>Not indefinite;</p> <p>Plain and ordinary meaning;</p> <p>In the alternative, “circumferentially symmetric” means “symmetric in the circumferential direction of the tire.”</p> | <p>Indefinite;</p> <p>As best understood: “Circumference” relates to the perimeter of a circle.</p> <p>“Circumferentially symmetric” about its protrusion axis requires a geometric figure (such as a cylinder or cone) having a central axis with each radial point about that axis having a corresponding mirror image point (for example ... visualize a corny dog [shown] with the stick being its axis and the remainder of the corny dog [hot dog and breading] being circumferentially symmetric about that axis; on the other hand, shish kabab [shown] is not circumferentially symmetric about its axis).</p> |

Bridgestone argues that “circumferentially symmetric” describes “the direction of symmetry of the longitudinal protrusions,” namely, that

the “longitudinal protrusions are symmetric in the circumferential direction of the tire.” ECF No. 140 at 10, 12. Bridgestone contends that the specification always uses “circumferentially” and “circumferential” to “refer to the tire’s circumference, without ever implying any of the longitudinal protrusions have a circumference.” *Id.* at 11 (citing ’291 Patent at 4:65–5:6 (referring to “circumferential spacing 37” in Figure 5); 4:46–57 (referring to “circumferential protrusion 36”)). Bridgestone asserts that Figures 1–3, 5, and 6 “show [that circumferential protrusion 36]—unlike the longitudinal protrusions—extends around the circumference of the tire.” *Id.* (citing ’291 Patent at 4:65–5:6). Bridgestone also asserts the specification describes “a relatively wide spacing between the lugs of each row in the circumferential direction[,]” which is consistent with figures that show that the lugs are spaced apart in the circumferential direction of the tire. *Id.* (citing ’291 Patent at Figure 2).

Bridgestone argues Defendants’ proposed construction—which requires that the longitudinal protrusions are cylindrical or conical—excludes every embodiment in the patent. *Id.* at 12. Specifically, Bridgestone asserts that each embodiment shows that each longitudinal protrusion has a flat top surface, and thus is not cylindrical or conical. *Id.* The Court agrees.

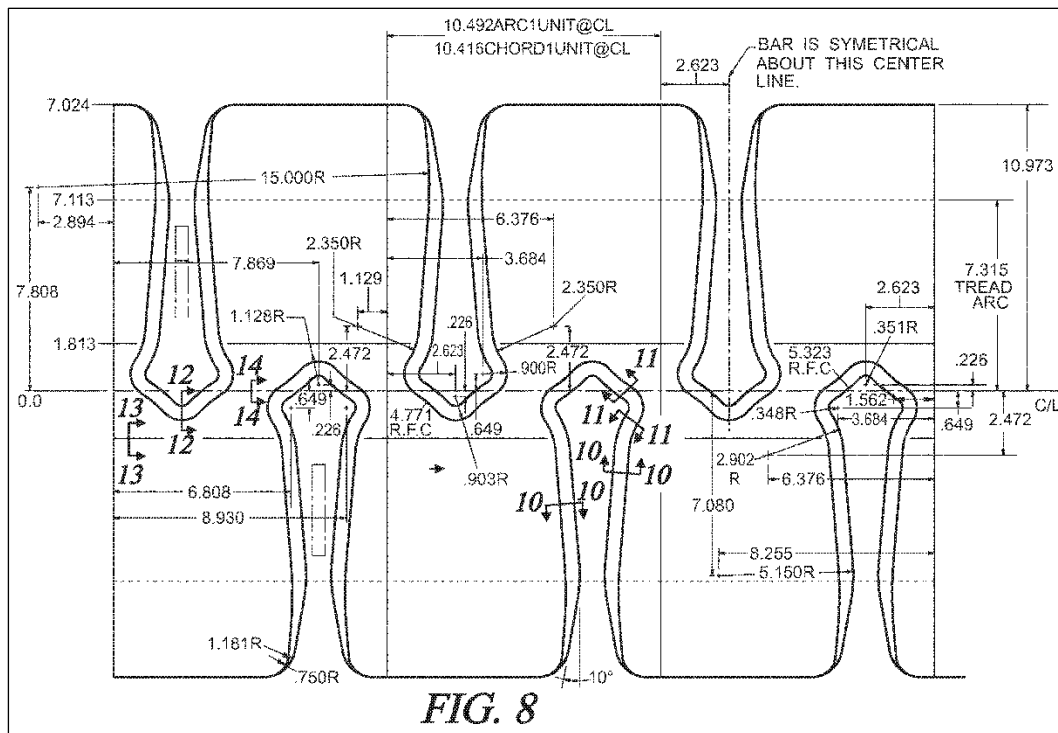
Defendants’ Response argues that Bridgestone’s alternative proposed construction “radically” departs from the plain-and-ordinary meaning, demonstrating the need for the Court to construe this term. ECF No. 144 at 13 (citing *O2 Micro*, 521 F.3d at 1360–61). Defendants further argue that Bridgestone’s proposed construction “makes no sense of the terms and appears manufactured out of whole cloth so that the patent will read on [Defendants’] tire.” *Id.* at 16. To this end, Defendants observe that the words “circumferentially symmetric” do not appear in the specification. *Id.* at 14. But Defendants contend that the constituent words of the claim term have well-known meanings. *Id.* at 16, 16 n.4. For example, Defendants assert that the definition of “circumference” is “the perimeter of a circle.” *Id.* at 16 n.4 (citing *Algebra 1 For Dummies* 249 (2001); *CRC Concise Encyclopedia of Mathematics* 442 (2003)). Defendants assert that the definition of “axis” is “a line with respect to

which a curve or figure is drawn, measured, rotated, etc.” *Id.* at 16 n.4 (citing *CRC Concise Encyclopedia of Mathematics* 149442 (2003)). Defendants assert that an object is “symmetrical” if “it has a mirror image at each point along its axis[.]” *Id.* (citing *CRC Concise Encyclopedia of Mathematics* 2918 (2003)). Based on those definitions, Defendants assert that “circumferentially” is “properly understood to be defining a direction(s) [sic] along a circumference of an object, where the circumference is defined by a radius about an axis.” *Id.* at 13; *see also id.* at 16 n.4.

Defendants contend that the claim term (“each longitudinal protrusion being circumferentially symmetric about its protrusion axis”) describes that the axis in question is the protrusion axis, and not the tire’s rotational axis. *Id.* at 13–14. Defendants argue that Plaintiff’s proposed construction effectively attempts to substitute “rotational axis” for “protrusion axis.” *Id.* Defendants liken their proposed construction to a corn dog, “which *is* generally circumferentially symmetric about its axis (the stick).” *Id.* at 14 (internal citations omitted). Defendants argue that longitudinal protrusion 34 is not depicted in the patent as being circumferentially symmetrical about its protrusion axis. *Id.* at 16. Rather, Defendants argue that if the longitudinal protrusion 34 was circumferentially symmetrical about its protrusion axis, it would resemble a corn dog. *Id.* Defendants say the inventor’s testimony supports their construction. *Id.* at 14–16.

In its Reply, Bridgestone argues that the Court only needs to construe the term when there is an “**actual** dispute regarding the proper scope of the[] claims[.]” Reply at 5 (quoting *O2 Micro*, 521 F.3d at 1360 (emphasis in Bridgestone’s brief)). But Bridgestone argues the Defendants have not shown that there is an actual dispute. *Id.* Furthermore, Bridgestone argues that Defendants’ proposed construction improperly relies on extrinsic evidence “to arrive at a definition that contradicts that intrinsic evidence.” *Id.* Bridgestone argues the patent does not describe a single example that corresponds to Defendants’ proposed construction. *Id.* Rather, Bridgestone argues that Figure 8 of the patent, for example, recites “BAR IS SYMETRICAL

[sic] ABOUT THIS CENTER LINE,” *i.e.*, the sides of the longitudinal protrusion are mirror images of each other. *Id.*



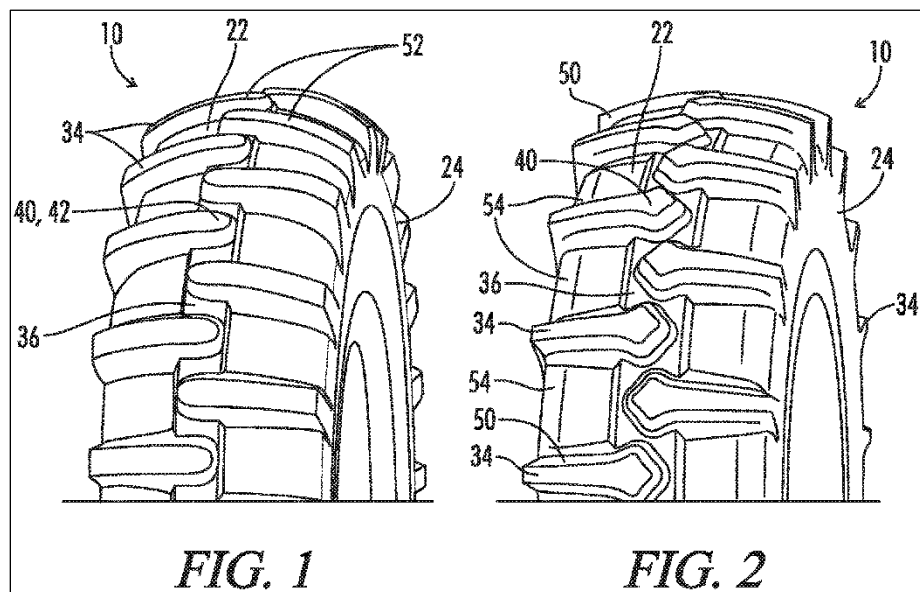
As Bridgestone sees things, Defendants admit the inventors “agree that ... the tire tread is circumferentially symmetrical about the tire’s axis[,]” which is what Bridgestone’s alternative proposed construction describes. *Id.* at 7. Bridgestone asserts that Defendants’ statement that “longitudinal protrusion 34 is **not** circumferentially symmetric about its protrusion axis” indicates that the specification describes that the longitudinal protrusions may not be in the shape of a corn dog, thus contradicting Defendants’ proposed construction. *Id.* (emphasis in Bridgestone’s brief). With respect to Defendants’ argument that Bridgestone’s alternative construction attempts to rewrite the claim language, Bridgestone contends that its primary proposed construction merely seeks to construe the term according to its plain-and-ordinary meaning. *Id.* at 7–8.

The Court agrees with Bridgestone that this term should be construed according to its plain-and-ordinary meaning for the reasons that follow.

First, the “heavy presumption” is that terms should be construed according to their plain-and-ordinary meaning. *Azure Networks*, 771 F.3d at 1347. Furthermore, although Defendants assert—with little explanation—that Bridgestone’s alternative proposed construction “radically” departs from the plain-and-ordinary meaning, Defendants have not provided a reason why a plain-and-ordinary construction is inappropriate.

Second, Defendant does not expressly allege lexicography or disclaimer, which are the only two exceptions to the general rule that a term should be construed as having its plain-and-ordinary meaning. *Thorner*, 669 F.3d at 1365.

Third, Defendants’ proposed construction improperly excludes all of the disclosed embodiments. *Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1276 (Fed. Cir. 2008) (“We normally do not interpret claim terms in a way that excludes embodiments disclosed in the specification . . . where claims can reasonably be interpreted to include a specific embodiment, it is incorrect to construe the claims to exclude that embodiment, absent probative evidence to the contrary.”). More specifically, the figures in the patent depict that the longitudinal protrusions are *not* in the shape of a corn dog, nor otherwise symmetrical in three-dimensions around the protrusion axis. *See, e.g.*, ’291 Patent at Figures 1, 2.



As such, the requirement in Defendants’ proposed construction that the longitudinal protrusions must be in the shape of a corn dog improperly excludes all these embodiments.

Fourth, Defendants’ proposed construction improperly reads “circumferentially” out of the claim term. *Generation II Orthotics Inc. v. Med. Tech. Inc.*, 263 F.3d 1356, 1365 (Fed. Cir. 2001) (a proposed claim construction must not “revise or ignore the explicit language of the claims.”); *Merck & Co. v. Teva Pharms. USA*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”). More specifically, Defendants’ proposed construction requires that the longitudinal protrusion be symmetric in three-dimensions, such that the longitudinal protrusion has the shape of a corn dog, *i.e.*, is shaped like a cylinder around the protrusion axis. But the plain meaning of “symmetric about its protrusion axis”—*i.e.*, without “circumferentially”—already requires that the longitudinal protrusion be cylindrical around the protrusion axis. As such, Defendants’ proposed construction improperly reads “circumferentially” out of the claim term. Had the patentee intended for the longitudinal protrusion to be cylindrical around the protrusion axis, the patentee would have omitted the word “circumferentially” from the claim language. But because the patentee included “circumferentially” in the claim term, Defendants’ proposed construction cannot be correct.

Rather, adding “circumferentially” to “symmetric about its protrusion axis” narrows the amount or degree of symmetry such that the longitudinal protrusion is no longer cylindrical around the protrusion axis. More specifically, as described above, while “symmetric about its protrusion axis” means that the longitudinal protrusion is symmetric in three-dimensions, “circumferentially symmetric about its protrusion axis” narrows the symmetry such that the longitudinal protrusion must be symmetric only in the direction of the circumference, *i.e.*, effectively only in two-dimensions (in the instantaneous plane of the circumference) versus three-dimensions. The figures of the patent depict such symmetry. For example, Figures 1 and 2 show that longitudinal protrusion 34 is symmetric only about the protrusion axis (which runs lengthwise across the longitudinal protrusion) in the direction of the

circumference. In that direction, each half of longitudinal protrusion 34 on either side of the protrusion axis is a mirror image of the other half. *See* '291 Patent at Figures 1, 2. And there is clearly no symmetry in other directions.²

Fifth, the patent uses “circumferential[ly]” to refer to the tire’s circumference. For example, Figure 5 depicts that “circumferential spacing 37” is the spacing between protrusions along the circumference. '291 Patent at Figure 5. As a second example, Figures 1–3, 5, and 6 depict that “that circumferential protrusion 36” is a protrusion along the circumference of the tire. The patent does not appear to use “circumferential[ly]” to refer to longitudinal protrusions, nor do Defendants identify any such disclosure.

* * *

For the reasons above, the Court concludes that the proper construction of this term is the plain-and-ordinary meaning.

C. Term #2: “So that no portion of one longitudinal protrusion extends circumferentially past any portion of an adjacent longitudinal protrusion.”

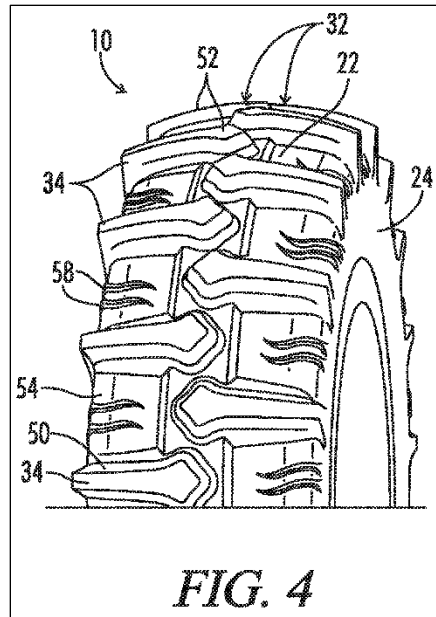
| Claim Term | Bridgestone’s Proposal | Defendants’ Proposal |
|--|---|--|
| #2: “So that no portion of one longitudinal protrusion extends circumferentially past any portion of an adjacent longitudinal protrusion” | Not indefinite; Plain and ordinary meaning; In the alternative, “extends circumferentially past” means “extends past in the circumferential direction of the tire.” | Indefinite; As best understood: “Extends circumferentially past” means that the protrusion is parallel to the tire axis, not at an angle with respect to the tire axis. |

²Notably, Figure 8 also depicts this symmetry. As described above, Figure 8 depicts a longitudinal protrusion that is trapezoidal from the edge of the tire towards its center but star-shaped near the center. In other words, this longitudinal protrusion is not symmetrical in three dimensions, as required by Defendants’ proposed construction. Despite that fact, Figure 8 still describes that the longitudinal protrusion is “SYMETRICAL [sic] ABOUT THIS CENTER LINE.” *See* '291 Patent at Figure 8.

| Claim Term | Bridgestone's Proposal | Defendants' Proposal |
|------------------------------------|------------------------|----------------------|
| U.S. Patent No. 9,873,291, Claim 1 | | |

The Parties dispute which direction “circumferentially past” refers to: (1) along the circumference (Bridgestone’s position) or (2) perpendicular to the circumference (Defendants’ position). Bridgestone argues that “extends circumferentially past” uses plain English words and requires no clarification. ECF No. 140 at 14. As described above, Bridgestone contends that the patent describes “circumferential[ly]” with respect to the circumference of the tire. *Id.* (citing “291 Patent at Figure 1). Based on that, Bridgestone says Defendants’ proposed construction improperly limits the scope of the claim term. *Id.* at 15. Moreover, Bridgestone argues Defendants’ proposed construction is redundant with surrounding claim language. *Id.* (citing *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 2012)). Specifically, Bridgestone notes the claim language already recites “each longitudinal protrusion [has] a protrusion axis substantially parallel to a rotational axis of the tire,” which is redundant with “the protrusion is parallel to the tire axis” in Defendants’ proposed construction. *Id.* Bridgestone also contends that the intrinsic evidence does not support Defendants’ proposed construction. *Id.* In particular, Bridgestone contends that “[t]here is not a single citation that discusses or even suggests that ‘extends circumferentially past’ means ‘parallel to the tire axis.’” *Id.*

Defendants’ Response argues that Figure 4 depicts that “lug tips 52 and 32 *do* extend past one another in the ‘circumferential direction’ of the tire (*contrary* to ‘no portion’ in the claim).” ECF No. 144 at 17 (emphasis in Defendants’ brief).



Defendants otherwise argue the claim term is indefinite because the patentee didn't use "circumferentially coincident" as it did for other patents in the same family. *Id.* at 18. Bridgestone replies that Defendants provide no arguments why the plain-and-ordinary meaning is incorrect or why the Court should adopt their proposed construction. ECF No. 146 at 8. Rather, Bridgestone argues that Defendants only argue that Bridgestone's alternative proposed construction is incorrect. *Id.*

Bridgestone contends that Defendants' argument that "lug tips 52 and 32 do extend past one another in the 'circumferential direction' of the tire" is incorrect. *Id.* More specifically, Bridgestone contends that Figure 4 depicts that there is "circumferential spacing" between adjacent longitudinal protrusions, which are arranged in the circumferential direction. *Id.* Bridgestone further contends that Figure 5 expressly depicts that there is "circumferential spacing" between adjacent longitudinal protrusions (circumferential spacing 37). *Id.* at 9 (citing '291 Patent at 4:65–5:6, Figure 5). With respect to Defendants' indefiniteness argument, Bridgestone asserts that Defendants' reason is merely "rank attorney argument." *Id.* Bridgestone says the term is not indefinite because a POSITA, viewing the claim term in light of the specification, *e.g.*, Figure 5, would understand the term's scope with reasonable certainty. *Id.* at 9–10.

Here too, the Court agrees with Bridgestone that this term is not indefinite and should be construed according to its plain-and-ordinary meaning.

First, the “heavy presumption” is that terms should be construed according to their plain-and-ordinary meaning. *Azure Networks*, 771 F.3d at 1347. Defendants offer nothing to overcome the Court’s heavy presumption.

Second, Defendants do not expressly allege lexicography or disclaimer, which are the only two exceptions to the general rule that a term should be construed as having its plain-and-ordinary meaning. *Thorner*, 669 F.3d at 1365.

Third, as described above with respect to Term #1, the patent uses “circumferential[ly]” to refer to the tire’s circumference. This supports Bridgestone’s position that the direction “circumferentially past” is along the circumference, and not parallel to the tire axis, *i.e.*, perpendicular to the circumference.

Fourth, Defendants’ proposed construction excludes all of the disclosed embodiments. *Oatey*, 514 F.3d at 1276 (“We normally do not interpret claim terms in a way that excludes embodiments disclosed in the specification . . . where claims can reasonably be interpreted to include a specific embodiment, it is incorrect to construe the claims to exclude that embodiment, absent probative evidence to the contrary.”). More specifically, using Figure 5 as an example, Defendants’ proposed construction for this claim term excludes a longitudinal protrusion from overlapping another longitudinal protrusion in the horizontal direction (from left to right) across the tire. But all figures in the patent depict that the longitudinal protrusions overlap in the horizontal direction. *See, e.g.*, ’291 Patent at Figures 1–5, 8–9, 15–16. As such, the Court concludes that Defendants’ proposed construction is incorrect because there is no probative evidence that justifies excluding all of the disclosed embodiments. *Oatey*, 514 F.3d at 1276.

Fifth, Defendants’ proposed construction is redundant with claim language. At best, “merely rephrasing or paraphrasing the plain language of a claim by substituting synonyms does not represent

genuine claim construction.” *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 863 (Fed. Cir. 2004) (internal quotations omitted). At worst, this redundancy may confuse a jury. *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1366 (Fed. Cir. 2004) (“The district court simply must give the jury guidance that can be understood and given effect by the jury once it resolves the issues of fact which are in dispute.”).

Sixth, Defendants’ proposed construction improperly narrows the claim language by requiring that the “protrusion is parallel to the tire axis,” where the claim language only requires that the protrusion is “*substantially* parallel to a rotational axis of the tire.” ’291 Patent, Claim 1, Limitation [b]. As such, Defendants’ proposed construction improperly narrows the claim language to require that the protrusion is parallel and not just “substantially” parallel. *Phillips*, 415 F.3d at 1316 (“The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”) (internal citation omitted).

Seventh, the Court finds a POSITA would understand with reasonable certainty the term’s scope. *Nautilus*, 572 U.S. at 910. For example, Figure 4 shows the longitudinal protrusions overlap in the horizontal direction (parallel to the tire’s rotation axis) but are separated by circumferential spacing in the vertical direction. ’291 Patent at Figure 4. The simplicity of these disclosures indicates a POSITA would understand the term’s scope with reasonable certainty.

* * *

For the reasons above, the Court concludes that the claim term is not indefinite and that the proper construction of this term is plain-and-ordinary meaning.

D. Term #3: “Defining first and second circumferentially symmetrical bulges.”

| Claim Term | Bridgestone’s Proposal | Defendants’ Proposal |
|--|---|---|
| <p>#3: “Defining first and second circumferentially symmetrical bulges”</p> <p>U.S. Patent No. 9,873,291, Claim 1</p> | <p>Not indefinite;</p> <p>Plain and ordinary meaning;</p> <p>In the alternative, “circumferentially symmetrical bulges” means “bulges that are symmetric in the circumferential direction of the tire.”</p> | <p>Indefinite;</p> <p>As best understood: “Circumferentially symmetrical bulges” requires the bulges to be symmetrical about the protrusion axis.</p> |

Once again, Bridgestone contends Defendants show no reason to depart from plain-and-ordinary meaning vis-à-vis the above term. Bridgestone asserts that, as with Term #1, the Parties do not dispute the meaning of “symmetric[al],” but whether “circumferentially” refers to the circumference of the tire or the circumference of the longitudinal protrusion. *Id.* Bridgestone asserts that because the patent always refers to “circumferential[ly]” with respect to the former, the claim term should be understood to encompass the former. *Id.* By contrast, Bridgestone asserts that Defendants’ proposed construction would exclude all disclosed embodiments. *Id.* Defendants’ Response argues simply that “[t]he same construction arguments [for Term #2] also apply here.” ECF No. 144 at 19. In its Reply, Bridgestone correctly notes that Defendants “offer no independent analysis of this claim term,” and refers the Court to its arguments with respect to Term #1 and in its Opening brief. ECF No. 146 at 10.

* * *

The Court finds the proper construction of this term is plain-and-ordinary meaning for the same reasons provided for Terms #1 and #2.

E. Term #4: “On circumferentially opposite sides of the protrusion axis.”

| Claim Term | Bridgestone’s Proposal | Defendants’ Proposal |
|---|---|---|
| <p>#4: “On circumferentially opposite sides of the protrusion axis”</p> <p>U.S. Patent No. 9,873,291, Claim 1</p> | <p>Not indefinite;</p> <p>Plain and ordinary meaning;</p> <p>In the alternative, “circumferentially opposite sides of the protrusion axis” means “on opposite sides of the protrusion axis of the longitudinal protrusion, in the circumferential direction.”</p> | <p>Indefinite;</p> <p>As best understood: “Circumferentially opposite sides of the protrusion axis” require the bulges to be mirror images about the protrusion axis.</p> |

Bridgestone argues the term uses “clear, unequivocal language to specify where the bulges are located relative to one another—on opposite sides of the protrusion axis.” ECF No. 140 at 18. As such, Bridgestone says Defendants do not provide any reason why the Court should depart from the plain-and-ordinary meaning. *Id.*

Bridgestone contends that the patent recites that “[f]irst and second bulges 46 and 48 ... can extend from the protrusion axis 44” and that Figure 5 depicts that the “first and second bulges 46, 48 being on opposite sides of protrusion axis 44 in the circumferential direction of the tire.” *Id.* at 19 (quoting ’291 Patent at 5:45–47; citing ’291 Patent at Figure 5). Based on those disclosures, Bridgestone contends that the term “‘circumferentially opposite sides of the protrusion axis’ clearly and unequivocally specifies the location of the bulges relative to the protrusion axis in a manner consistent with the specification.” *Id.* Bridgestone further asserts that the plain language of the claim term “does not suggest that the bulges are ‘mirror images,’ as Defendants propose[.]” *Id.* Bridgestone further asserts that Defendants proposed construction “lacks support in any of the cited evidence.” *Id.*

In their Response, Defendants argue that because the two sides “substantially disagree” as to the meaning of this claim term, the Court needs to construe it. ECF No. 144 at 19 (citing *O2 Micro*, 521 F.3d 1360–61). Defendants further argue that “given the complete disparity between [Bridgestone’s] proffered construction and [Defendants’], it is appropriate to consider *extrinsic* evidence which is consistent with the terminology and *validates* [Defendants’] rendering[.]” *Id.* at 19 n.7 (emphasis in Defendants’ brief). To this end, Defendants assert that:

To be “circumferentially” opposite, each opposite side would be “equidistant” from the axis (as the points on a “circumference” are from the circle’s center point). Therefore, the “plain meaning” of this claim term is “mirror images,” similar to a 4-door revolving door having a door at every 90 degrees about its axis). ”

Id.

In its Reply, Bridgestone argues that none of the extrinsic evidence that Defendants cite “uses or even suggests the ‘mirror images’ language urged by Defendants.” ECF No. 146 at 10. Bridgestone further argues that the extrinsic evidence Defendants cite too, *e.g.*, 4-door revolving door, is unrelated to this claim term. *Id.* The Court agrees.

First, the “heavy presumption” is that terms should be construed according to their plain-and-ordinary meaning; Defendants do nothing to overcome that heavy presumption. *Azure Networks*, 771 F.3d at 1347.

Second, Defendants don’t expressly allege lexicography or disclaimer, which are the only two exceptions to the general rule that a term should be construed as having its plain-and-ordinary meaning. *Thorner*, 669 F.3d at 1365.

Third, Defendants do not appear to dispute the meaning of “opposite sides of the protrusion axis,” but rather only appear to construe the meaning of “circumferentially.” But for the same reasons that the Court explained about in connection to Terms #1 and #2, the Court does not believe that a construction is necessary.

Fourth, the Court agrees Bridgestone that Defendants’ extrinsic evidence is unrelated to this claim term, but rather describes other concepts. Furthermore, none of the cited extrinsic evidence describes

this term in the same manner as Defendants’ proposed construction. In any case, the Court puts relatively little weight on extrinsic evidence given that it is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard*, 388 F.3d at 862).

* * *

For the reasons above, the Court concludes that the proper construction of this term is plain-and-ordinary meaning.

F. Term #5: “Wherein the circumferentially symmetrical bulges each include a convex circular arc shaped bulge portion.”

| Claim Term | Bridgestone’s Proposal | Defendants’ Proposal |
|---|---|---|
| <p>#5: “Wherein the circumferentially symmetrical bulges each include a convex circular arc shaped bulge portion”</p> <p>U.S. Patent No. 9,873,291, Claim 1</p> | <p>Not indefinite;</p> <p>Plain and ordinary meaning;</p> <p>In the alternative, “circumferentially symmetrical bulges” means “bulges that are symmetric in the circumferential direction of the tire.”</p> | <p>Indefinite;</p> <p>As best understood: “Circumferentially symmetrical bulges” requires the bulges to be symmetrical about the protrusion axis.</p> <p>“Convex circular” requires a circular radius.</p> <p>“Arc shaped” means a portion of a circle’s perimeter.</p> |

Bridgestone once again argues Defendants show no reason the Court should depart from plain-and-ordinary meaning. With respect to “circumferentially symmetrical bulges,” Bridgestone contends that this “means that the bulges are symmetrical in the circumferential direction of the tire for the reasons discussed [with respect to Term #3].” *Id.* at 21. With respect to “convex circular” and “arc shaped,” Bridgestone contends that construing these terms would be an “exercise in redundancy” given that the claim already describes that the bulges are

circular. *Id.* (citing *U.S. Surgical*, 103 F.3d at 1356). Defendants’ Response simply incorporates the arguments from Term #2. ECF No. 144 at 20. With respect to “convex,” Defendants argue that the Federal Circuit construed this term as “having a surface of boundary that curves or bulges outwards, **as the exterior of a sphere.**” *Id.* (*Nystrom v. Trex Co.*, 424 F.3d 1136, 1146–47 (Fed. Cir. 2005) (quoting *Am. Heritage Dictionary of the English Language* 402 (4th ed. 2000) (emphasis in Defendants’ brief))).

Defendants contend that Bridgestone’s proposed construction is contrary to the plain meaning of the term, and thus the Court should construe this term. *Id.* (citing cases). Defendants further argue that “given the complete disparity between [Bridgestone’s] proffered construction and [Defendants’], it is appropriate to consider *extrinsic* evidence which is consistent with the terminology and *validates* [Defendants’] rendering[.]” *Id.* at 21 n.9 (emphasis in Defendants’ brief). In its Reply, Bridgestone argues that it is unclear what Defendants mean by their statement that Bridgestone’s proposed construction is contrary to the plain meaning of the term as its primary proposed construction is plain-and-ordinary meaning. ECF No. 146 at 11.

With respect to “circumferentially symmetric,” Bridgestone contends that Defendants’ arguments are improper for the reasons described in its Opening brief and for Term #1. *Id.* With respect to “arc shaped,” Bridgestone contends that “Defendants offer no analysis to support its definition of ‘arc shaped.’” *Id.* With respect to “convex circular,” Bridgestone contends that the cases Defendants cite are irrelevant because they construe “convex” and not “convex circular.” *Id.* Bridgestone further contends that those cases also fail to support Defendants’ proposed construction. *Id.* The Court agrees.

First, to beat again the dead horse, the “heavy presumption” is that terms should be construed according to their plain-and-ordinary meaning. *Azure Networks*, 771 F.3d at 1347. Try as they might, Defendants simply provide no sufficient basis to overcome this presumption.

Second, Defendants don't expressly allege lexicography or disclaimer, which are the only two exceptions to the general rule that a term should be construed as having its plain-and-ordinary meaning. *Thorner*, 669 F.3d at 1365.

Third, with respect to "circumferentially symmetric," the Court explained why plain-and-ordinary meaning is appropriate for this term in its analysis for Term #1.

Fourth, with respect to "convex circular," the Court concludes that the cases that Defendants cite are inapposite because, in those cases, the court construed the term "convex," and not "convex circular." *See, e.g., Nystrom*, 424 F.3d at 1146–47. Furthermore, Defendants' proposed construction ("requires a circular radius") does not appear to construe "convex," but rather appears to construe "circular" only.

Fifth, "arc shaped" and "convex circular" are simple mathematical terms that a POSITA would readily understand. As such, the Court concludes that adopting Defendants' proposed construction for these two terms would be an "obligatory exercise in redundancy." *U.S. Surgical Corp.*, 103 F.3d at 1568.

Sixth, similarly, because "arc shaped" and "convex circular" are simple mathematical terms, the Court concludes that a lay jury would readily understand the meaning of these terms and thus would not benefit from the Court providing a construction. *Sulzer Textil*, 358 F.3d at 1366 ("The district court simply must give the jury guidance that can be understood and given effect by the jury once it resolves the issues of fact which are in dispute.").

* * *

For the reasons above, the Court concludes that the proper construction of this term is plain-and-ordinary meaning.

G. Term #6: “Having a radius of curvature.”

| Claim Term | Bridgestone’s Proposal | Defendants’ Proposal |
|---|--|--|
| #6: “Having a radius of curvature” U.S. Patent No. 9,873,291, Claim 1 | Not indefinite; Plain and ordinary meaning. | Indefinite; As best understood: “Radius of curvature” must be circular or arc shaped. |

Bridgestone asserts that Defendants’ proposed construction—which construes “convex circular” as requiring a circular radius—is redundant with other claim language, *e.g.*, “a convex circular arc shaped end portion having a radius of curvature.” *Id.* at 23. Bridgestone further asserts that “Defendants’ proposal underscores that the bulge portion has a circular or arc shape.” *Id.* Defendants argue the Court should construe this disputed term. ECF No. 144 at 21 (citing cases). Defendants maintain that “[c]learly having a single ‘radius’ defining a ‘curvature’ shows a ‘circular or arc shape.’” *Id.* Bridgestone replies that Defendants’ proposed construction is “obviously redundant” with the claim language. ECF No. 146 at 12. Further, Bridgestone argues that Defendants’ proposed construction is wrong as a matter of law because it improperly limits “a radius of curvature” to a single radius when “a” in patent law means “one or more.” *Id.* (citing *Baldwin Graphic Sys. Inc. v. Siebert, Inc.*, 513 F.3d 1338, 1342 (Fed. Cir. 2008)). Bridgestone contends that Defendants do not provide a reason to depart from this general rule. *Id.* The Court agrees.

First, the “heavy presumption” is that terms should be construed according to their plain-and-ordinary meaning. *Azure Networks*, 771 F.3d at 1347. The Court once again sees nothing from Defendants to overcome this presumption.

Second, Defendant does not expressly allege lexicography or disclaimer, which are the only two exceptions to the general rule that a term should be construed as having its plain-and-ordinary meaning. *Thorner*, 669 F.3d at 1365.

Third, Defendants’ proposed construction improperly limits “a radius of curvature”—which, in patent law is “one or more”—to just one radius. *Baldwin Graphic Sys.*, 513 F.3d at 1342. While the Court sympathizes with Defendants on the linguistic inconsistency of this usage, it nevertheless remains a standard idiosyncrasy of American patent law.

Fourth, as was the case for “arc shaped” and “convex circular,” “radius of curvature,” is a simple mathematical term that a POSITA would readily understand. As such, the Court concludes that adopting Defendants’ proposed construction would be an “obligatory exercise in redundancy.” *U.S. Surgical Corp.*, 103 F.3d at 1568.

Fifth, similarly, as was the case for “arc shaped” and “convex circular,” the Court concludes that a lay jury would readily understand the meaning of this term and thus would not benefit from the Court providing a construction. *Sulzer*, 358 F.3d at 1366.

* * *

For the reasons above, the Court concludes that the proper construction of this term is plain-and-ordinary meaning.

H. Term #7: “Located on a distal side of the convex circular arc shaped bulge portions.”

| Claim Term | Bridgestone’s Proposal | Defendants’ Proposal |
|---|---|---|
| #7: “Located on a distal side of the convex circular arc shaped bulge portions” U.S. Patent No. 9,873,291, Claim 1 | Not indefinite; Plain and ordinary meaning; In the alternative, “distal side” means “side away from the respective sidewall.” | Indefinite; As best understood: “Convex circular” requires a circular radius. “Arc shaped” means a portion of a circle’s perimeter. |

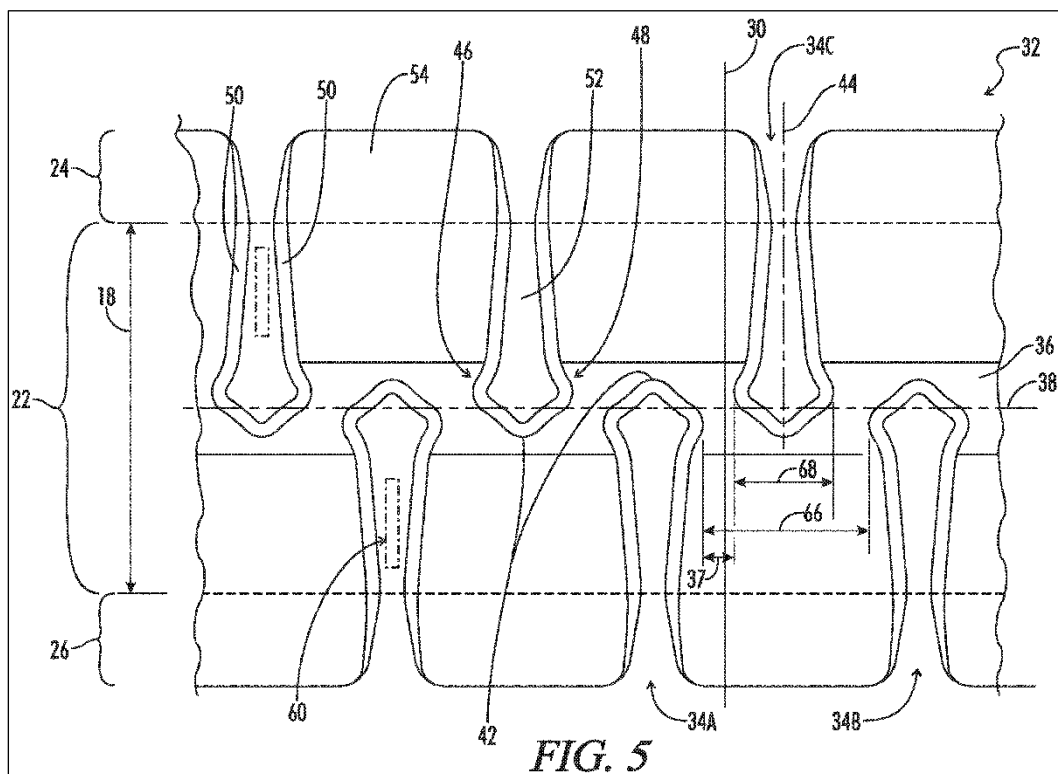
This term is very similar to Term #5 (“wherein the circumferentially symmetrical bulges each include a convex circular arc shaped bulge portion”) in that both terms contain the phrase “convex circular arc

shaped bulge portions.” This term, however, also adds the prefatory phrase “located on a distal side.”

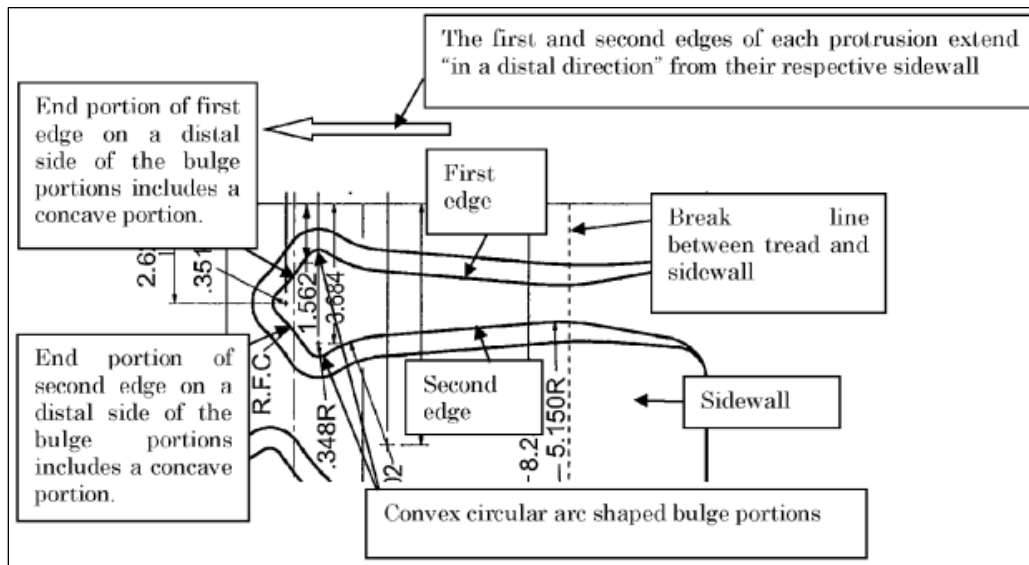
Bridgestone argues that this term “merely identifies the location of the ‘end portion’ in plain English, and it should be given its plain and ordinary meaning.” ECF No. 140 at 24. Bridgestone argues that Defendants do not provide any reason why the Court should depart from the plain-and-ordinary meaning. *Id.*

Bridgestone contends that while Defendants repeat their constructions for “convex circular” and “arc shaped” from Term #5, Defendants do not provide a construction for “distal side.” *Id.* at 24, 26.

Bridgestone asserts that the intrinsic and extrinsic evidence “makes clear that the distal side is the ‘side away from the respective sidewall.’” *Id.* at 25. With respect to the intrinsic evidence, Bridgestone asserts that Claim 1 recites that “each longitudinal protrusion includes a contact surface having first and second edges extending in a distal direction from the respective sidewall.” *Id.* Bridgestone further asserts that Figure 5 depicts that longitudinal protrusions 34A and 34B extend away from sidewall 26. *Id.*



Bridgestone asserts that, during prosecution, Bridgestone provided an annotated version of Figure 8, which shows that “distal direction” for the longitudinal protrusion is away from the sidewall that the protrusion is attached to. *Id.* at 25–26.



With respect to the extrinsic evidence, Bridgestone cites to two dictionary definitions that recite that the distal direction is away from the point of attachment. *Id.* at 26 (citing ECF No. 140, Ex. 8 at BRIDGESTONE_00001633, Ex. 9 at BRIDGESTONE_00001594).

In their Response, Defendants argue that Bridgestone made a prosecution disclaimer that “the concave portions are located immediately on a distal side of the convex circular arc shaped bulge portions.” ECF No. 144 at 24 (emphasis in Defendants’ brief). In particular, Defendants argue that Bridgestone told the Patent and Trademark Office that pending Claim 41 (which issued as Claim 1) was “the embodiment illustrated in Figure 8 and the claim merely clarified the location of the concave portions.” *Id.* Defendants then argue that the Examiner conceded that pending Claim 41 was allowable if Bridgestone clarified the direction. *Id.* Defendants argue that Examiner’s concession indicates that the Examiner understood that the concave portions were located between the free end and bulges. *Id.* As Defendants see it, Bridgestone’s “amendments and arguments made during prosecution are clear disclaimers that the concave portions are located immediately

on a distal side of the convex circular arc shaped bulge portions.” *Id.* (emphasis in Defendants’ brief).

Bridgestone argues that Defendants have abandoned their proposed construction and instead assert prosecution disclaimer. *Id.* at 13. Bridgestone contends that it is too late for Defendants to propose a new construction, after (1) the Parties exchanged preliminary claim constructions on March 2, 2023 and (2) the Parties submitted a joint claim construction and prehearing statement on April 3, 2023. *Id.* Bridgestone contends that Defendants’ untimely new proposed construction violates the Court’s claim construction procedures. *Id.* And even if the construction was timely, Bridgestone argues it fails to meet the “clear and unmistakable” standard required for a finding of a prosecution disclaimer. *Id.* (quoting *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325–26 (Fed. Cir. 2003)). More specifically, Bridgestone asserts that there was no need for a prosecution disclaimer to require that the concave portions are located immediately on a distal side because stating that the concave portions are located on a distal side was sufficient to distinguish prior art. *Id.* at 14.

Bridgestone argues that it did not assert that pending Claim 41 was the embodiment illustrated in Figure 8, but rather that it provided an annotated version of Figure 8 to “identify support in the original disclosure for the newly added claim—a common practice by patent attorneys that is encouraged by the Manual of Patent Examining Procedure (“MPEP”) [.]” *Id.* Bridgestone argues that “[n]othing in the prosecution history of the ’291 Patent suggests that claim 1 should be limited to the Figure 8 embodiment.” *Id.* at 15.

After reviewing the Parties’ arguments and considering the applicable law, the Court agrees with Bridgestone that this term should be construed according to its plain-and-ordinary meaning for the reasons that follow.

First, the “heavy presumption” is that terms should be construed according to their plain-and-ordinary meaning. *Azure Networks*, 771 F.3d at 1347.

Second, Defendant does not expressly allege lexicography, which is one of the only two exceptions to the general rule that a term should be construed as having its plain-and-ordinary meaning. *Thorner*, 669 F.3d at 1365.

Third, with respect to the prosecution history disclaimer, the Court concludes that Bridgestone did not make a disclaimer during prosecution. As a preliminary matter, “[t]he standards for finding lexicography and disavowal are exacting.” *Hill-Rom Servs.*, 755 F.3d at 1371. Defendants have not met “exacting” standard for several reasons. The most important reason is that Bridgestone did not state or claim that the “concave portions are located *immediately* on a distal side.” Rather, Bridgestone specifically claimed that the “concave portions are located on a distal side.”

Additionally, adding “concave portions are located on a distal side” as a limitation to the claim was sufficient to distinguish the claimed invention from prior art. In other words, there was no need for Bridgestone to disclaim claim scope by requiring that the “concave portions are located *immediately* on a distal side.” In any event, there is insufficient evidence that Bridgestone limited the scope of pending Claim 41 (now Claim 1) to Figure 8. Rather, the Court agrees with Bridgestone that the reference to Figure 8 was intended to show Examiner that there was support for this particular claim term in the specification. *See, e.g.*, MPEP § 2163(II)(A) (“With respect to newly added or amended claims, applicant should show support in the original disclosure for the new or amended claims.”). Given that this is a reasonable alternative explanation for Bridgestone’s reference to Figure 8, the Court concludes that there is no prosecution disclaimer. *3M*, 725 F.3d at 1326 (when “an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.”).

Fourth, Defendants’ new proposed construction is untimely. In particular, Defendants did not propose this new disclaimer-based proposed construction in its preliminary claim constructions on March 2, 2023 or prior to the Parties submitting a joint claim construction and prehearing statement on April 3, 2023. Defendants did not propose this

new proposed construction before the filing of Bridgestone’s Opening brief on August 16, 2023. Rather, Defendants waited until August 30, 2023 to propose this new construction when they filed their Response—half a year too late.

Finally, because a lay jury may not be familiar with the meaning of “distal side,” the Court provides the meaning of that term in its construction; namely, “wherein the plain-and-ordinary meaning of ‘distal side’ is the ‘side away from the respective sidewall,’” which is based on the intrinsic record and the dictionary definitions Bridgestone provided.

* * *

For the reasons above, the Court concludes that the proper construction of this term is plain-and-ordinary meaning wherein the plain-and-ordinary meaning of “distal side” is the “side away from the respective sidewall.”

I. Term #8: “Includes a concave portion of the respective edge.”

| Claim Term | Bridgestone’s Proposal | Defendants’ Proposal |
|---|--|---|
| <p>#8: “Includes a concave portion of the respective edge”</p> <p>U.S. Patent No. 9,873,291, Claim 1</p> | <p>Not indefinite; Plain and ordinary meaning.</p> | <p>Indefinite; As best understood: The end portion of each of the first and second edges includes a concave portions, a concave surface of one radius can only be a singular concave surface.</p> |

Bridgestone argues that this term is “written in plain English and can easily be understood by a juror.” ECF No. 140 at 27. Bridgestone argues that Defendants do not provide any reason why the Court should depart from the plain-and-ordinary meaning. *Id.*

Bridgestone contends that Defendants' proposed construction that requires "one radius" or a "singular concave surface" is unsupported by the intrinsic and extrinsic evidence. *Id.* Bridgestone first contends that the word "concave" does not require one radius or a single concave surface. *Id.* Bridgestone next contends that nothing in the claims requires a single radius. *Id.* at 27–28. Bridgestone contends that Defendants "fails to identify anything in the specification" that requires one radius or a singular concave surface. *Id.* at 28.

With respect to the extrinsic evidence, Bridgestone asserts that neither the geometry reference and dictionaries that Defendants cite requires that a concave surface have one radius or be a singular concave surface. *Id.*

Bridgestone further argues that Defendants' proposed construction is wrong as a matter of law. *Id.* More specifically, Bridgestone contends that Defendants' proposed construction improperly limits "a concave portion" to one radius or be a singular concave surface when "a" in patent law means "one or more." *Id.* (citing *Baldwin Graphic Sys.*, 513 F.3d at 1342). Bridgestone contends that Defendants do not provide a reason to depart from this general rule. *Id.*

In their Response, Defendants argue that courts in other cases have construed "concave" to mean "hollowed or rounded inward [like the inside of a bowl]" or "arched in." ECF No. 144 at 25 (citing *Eko Brands, LLC v. Adrian Rivera Maynez Enters., Inc.*, No. CV 19-00257, 2020 WL 13283477, at *7 (Kronstadt, J.) (C.D. Cal. Mar. 15, 2020), *Simmons, Inc. v. Koronis Parts*, No. 00-1984, 2001 WL 1095008, at *5 (Montgomery, J.) (D. Minn. Sept. 17, 2001)). Defendants argue that these cases supports its proposed construction. *Id.* at 25–26.

In its Reply, Bridgestone argues that Defendants "merely quote the construction of 'concave' from two other district courts for two unrelated patents without explanation." ECF No. 146 at 15. Bridgestone further argues that "[n]either construction suggests that 'a concave surface of one radius can only be a singular concave surface,' as Defendants propose." *Id.*

After reviewing the Parties' arguments and considering the applicable law, the Court agrees with Bridgestone that this term should be construed according to its plain-and-ordinary meaning for the reasons that follow.

First, the "heavy presumption" is that terms should be construed according to their plain-and-ordinary meaning. *Azure Networks*, 771 F.3d at 1347.

Second, Defendant does not expressly allege lexicography or disclaimer, which are the only two exceptions to the general rule that a term should be construed as having its plain-and-ordinary meaning. *Thorner*, 669 F.3d at 1365.

Third, the Court agrees with Bridgestone that Defendants' proposed construction improperly limits "a concave portion" —which, in patent law is "one or more"—to one radius or be a singular concave surface. *Baldwin Graphic Sys.*, 513 F.3d at 1342.

Fourth, Defendants' citation to case law is not persuasive for multiple reasons. As an initial matter, neither case is binding authority; rather, both are merely persuasive authority.

Furthermore, both cases are extrinsic evidence, which is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard*, 388 F.3d at 862). Relatedly, the constructions in both cases are from unrelated patents.

Finally, the constructions from both cases do not support the requirement in Defendants' proposed construction of one radius and a singular concave surface. Rather, the constructions leave open the possibility that there may be multiple radii and/or multiple concave surfaces. For example, one construction is that concave means "hollowed or rounded inward like the inside of a bowl." But bowls are not required to be a half a sphere (*i.e.*, one radius and/or have a singular concave surface); rather, the sides of bowl may have different curvatures, *e.g.*, more curved at the bottom and less curved at the top.

* * *

For the reasons above, the Court concludes that the proper construction of this term is plain-and-ordinary meaning.

J. Term #9: “Wherein the concave portions of the end portions of the first and second edges are symmetric with each other about the protrusion axis.”

| Claim Term | Bridgestone’s Proposal | Defendants’ Proposal |
|--|--|--|
| <p>#9: “Wherein the concave portions of the end portions of the first and second edges are symmetric with each other about the protrusion axis”</p> <p>U.S. Patent No. 9,873,291, Claim 2</p> | <p>Not indefinite; Plain and ordinary meaning.</p> | <p>Indefinite; As best understood: “The end portion of each of the first and second edges” terminates in a single concave surface that is bisected by the protrusion axis.</p> |

Bridgestone argues that this term is “written in plain English and can easily be understood by a juror.” ECF No. 140 at 29. Bridgestone argues that Defendants do not provide any reason why the Court should depart from the plain-and-ordinary meaning. *Id.* at 29–30.

Bridgestone contends that Defendants improperly attempt to “inject a requirement of ‘a single concave surface’ into the claim.” *Id.* at 30. Bridgestone contends the Court should reject that attempt for the same reasons described in connection with Term #8. *Id.* Bridgestone also contends that “Defendants’ proposed that ‘a single concave surface ... is bisected by the protrusion axis’ is unsupported by any evidence.” *Id.*

In their Response, Defendants again argue that other courts have construed “concave” to mean “hollowed or rounded inward like the inside of a bowl.” ECF No. 144 at 25 (citing *Eko Brands, LLC v. Adrian Rivera Maynez Enters., Inc.*, No. CV 19-00257, 2020 WL 13283477, at *7 (Kronstadt, J.) (C.D. Cal. Mar. 15, 2020), *Simmons, Inc. v. Koronis Parts*, No. 00-1984, 2001 WL 1095008, at *5 (Montgomery, J.) (D. Minn. Sept. 17, 2001)).

With respect to “symmetric . . . about the protrusion axis,” Defendants argue that “common parlance mandates a circular or cone shape around an axis.” *Id.*

In its Reply, Bridgestone argues that Defendants “repeat the construction of ‘concave’ from two unrelated district court cases.” ECF No. 146 at 15. With respect to “symmetric ... about the protrusion axis,” Bridgestone argues that Defendants do not provide any evidence for that assertion. *Id.*

After reviewing the Parties’ arguments and considering the applicable law, the Court agrees with Bridgestone that this term should be construed according to its plain-and-ordinary meaning for the reasons that follow.

First, the “heavy presumption” is that terms should be construed according to their plain-and-ordinary meaning. *Azure Networks*, 771 F.3d at 1347.

Second, Defendant does not expressly allege lexicography or disclaimer, which are the only two exceptions to the general rule that a term should be construed as having its plain-and-ordinary meaning. *Thorner*, 669 F.3d at 1365.

Third, with respect to “concave,” the Court incorporates its fourth reason in Term #8 regarding Defendants’ citation to two district court cases.

Fourth, with respect to “symmetric . . . about the protrusion axis,” the Court concludes that Defendants’ proposed construction improperly narrows the plain-and-ordinary meaning of this term. More specifically, the claim term recites that “the concave portions of the end portions of the first and second edges are symmetric with each other about the protrusion axis.” In other words, the plain language of this claim term describes that specific portions of the first and second edges are mirror images of each other (“symmetric with each other”). The protrusion axis, in this claim term, simply recites the frame of reference that symmetry is evaluated against.

The Court’s reasoning for this term (“symmetric with each other about the protrusion axis”) is consistent with its reasoning for Term #1 (“each longitudinal protrusion being circumferentially symmetric about its protrusion axis”). For the latter, a longitudinal protrusion that was symmetric about its protrusion axis would be a cylinder. But adding “circumferential” before “symmetrical” narrows the symmetry such that the longitudinal protrusion must be symmetric only in the direction of the circumference. Although the former recites “symmetric” but does not recite “circumferentially,” this symmetry doesn’t necessarily result in a cylinder because the claim language for this term is for *specific portions* of the longitudinal protrusion. Contrarily, the claim language for Term #1 is for the *entire* longitudinal protrusion. Specific portions may be symmetrical with each other without those portions of the longitudinal protrusion—or the entire longitudinal protrusion—being a cylinder. By contrast, for a longitudinal protrusion to be symmetrical with itself, each pair of corresponding points on opposite sides of the protrusion axis must be symmetrical with each other, resulting in a cylinder. But because this claim term (“symmetric with each other about the protrusion axis”) is limited to a subset of points, the end-result is not necessarily a cylinder.

* * *

For the reasons above, the Court concludes that the proper construction of this term is plain-and-ordinary meaning.

CONCLUSION

For the reasons described herein, the Court adopts the following constructions for each term.

SO ORDERED on this **30th day of October 2023**.



Mark T. Pittman

UNITED STATES DISTRICT JUDGE

| Claim Term | Bridgestone's Proposal | Defendants' Proposal | Court's Construction |
|--|--|--|--|
| <p>#1: "Each longitudinal protrusion being circumferentially symmetric about its protrusion axis"</p> <p>U.S. Patent No. 9,873,291, Claim 1</p> | <p>Not indefinite;</p> <p>Plain and ordinary meaning;</p> <p>In the alternative, "circumferentially symmetric" means "symmetric in the circumferential direction of the tire."</p> | <p>Indefinite;</p> <p>As best understood:</p> <p>"Circumference" relates to the perimeter of a circle.</p> <p>"Circumferentially symmetric" about its protrusion axis requires a geometric figure (such as a cylinder or cone) having a central axis with each radial point about that axis having a corresponding mirror image point (for example ... visualize a corny dog [shown] with the stick being its axis and the remainder of the corny dog [hot dog and breading] being circumferentially symmetric about that axis; on the other hand,</p> | <p>Not indefinite. Plain-and-ordinary meaning.</p> |

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| | | shish kabab [shown] is not circumferentially symmetric about its axis). | |
| <p>#2: "So that no portion of one longitudinal protrusion extends circumferentially past any portion of an adjacent longitudinal protrusion"</p> <p>U.S. Patent No. 9,873,291, Claim 1</p> | <p>Not indefinite; Plain and ordinary meaning; In the alternative, "extends circumferentially past" means "extends past in the circumferential direction of the tire."</p> | <p>Indefinite; As best understood: "Extends circumferentially past" means that the protrusion is parallel to the tire axis, not at an angle with respect to the tire axis.</p> | <p>Not indefinite. Plain-and-ordinary meaning.</p> |
| <p>#3: "Defining first and second circumferentially symmetrical bulges"</p> <p>U.S. Patent No. 9,873,291, Claim 1</p> | <p>Not indefinite; Plain and ordinary meaning; In the alternative, "circumferentially symmetrical bulges" means "bulges that are symmetric in the circumferential direction of the tire."</p> | <p>Indefinite; As best understood: "Circumferentially symmetrical bulges" requires the bulges to be symmetrical about the protrusion axis.</p> | <p>Not indefinite. Plain-and-ordinary meaning.</p> |

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| <p>#4: "On circumferentially opposite sides of the protrusion axis"</p> <p>U.S. Patent No. 9,873,291, Claim 1</p> | <p>Not indefinite; Plain and ordinary meaning; In the alternative, "circumferentially opposite sides of the protrusion axis" means "on opposite sides of the protrusion axis of the longitudinal protrusion, in the circumferential direction."</p> | <p>Indefinite; As best understood: "Circumferentially opposite sides of the protrusion axis" require the bulges to be mirror images about the protrusion axis.</p> | <p>Not indefinite. Plain-and-ordinary meaning.</p> |
| <p>#5: "Wherein the circumferentially symmetrical bulges each include a convex circular arc shaped bulge portion"</p> <p>U.S. Patent No. 9,873,291, Claim 1</p> | <p>Not indefinite; Plain and ordinary meaning; In the alternative, "circumferentially symmetrical bulges" means "bulges that are symmetric in the circumferential direction of the tire."</p> | <p>Indefinite; As best understood: "Circumferentially symmetrical bulges" requires the bulges to be symmetrical about the protrusion axis. "Convex circular" requires a circular radius.</p> | <p>Not indefinite. Plain-and-ordinary meaning.</p> |

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| | | "Arc shaped" means a portion of a circle's perimeter. | |
| #6: "Having a radius of curvature" U.S. Patent No. 9,873,291, Claim 1 | Not indefinite; Plain and ordinary meaning. | Indefinite; As best understood: "Radius of curvature" must be circular or arc shaped. | Not indefinite. Plain-and-ordinary meaning. |
| #7: "Located on a distal side of the convex circular arc shaped bulge portions" U.S. Patent No. 9,873,291, Claim 1 | Not indefinite; Plain and ordinary meaning; In the alternative, "distal side" means "side away from the respective sidewall." | Indefinite; As best understood: "Convex circular" requires a circular radius. "Arc shaped" means a portion of a circle's perimeter. | Not indefinite. Plain-and-ordinary meaning wherein the plain-and-ordinary meaning of "distal side" is the "side away from the respective sidewall." |
| #8: "Includes a concave portion of the respective edge" | Not indefinite; Plain and ordinary meaning. | Indefinite; As best understood: The end portion of each of the first and second edges includes a concave. | Not indefinite. Plain-and-ordinary meaning. |

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| U.S. Patent No. 9,873,291, Claim 1 | | portions, a concave surface of one radius can only be a singular concave surface. | |
| #9: "Wherein the concave portions of the end portions of the first and second edges are symmetric with each other about the protrusion axis" U.S. Patent No. 9,873,291, Claim 2 | Not indefinite; Plain and ordinary meaning. | Indefinite; As best understood: "The end portion of each of the first and second edges" terminates in a single concave surface that is bisected by the protrusion axis. | Not indefinite. Plain-and-ordinary meaning. |